



# AP332

## Dual-radio, Three-stream 802.11n Wireless Access Point

### High-performance wireless connectivity for high-density environments

The AP332 is a dual-radio, dual-band, 802.11a/b/g/n WLAN access point with a 3X3:3 MIMO design. It operates over the 2.4GHz and 5 GHz bands to deliver a maximum data rate of 450 Mbps per radio. The access point offers a choice between internal and external antenna models.

The AP332 supports data, voice, and video applications with superior predictability and reliability. It is designed for the highest-density, most demanding enterprise environments, including lecture halls, conference rooms, and stadiums. It allows you to rely on your Wi-Fi network for mission-critical applications, increasing productivity for end users.

Radio frequency virtualization delivers plug-and-play deployment, easy capacity expansion, and seamless mobility. Multiple operating modes give you the flexibility to design a wireless network suited to your specific needs. The access point supports centralized, distributed, mesh, and VPN tunnel modes.

As a key element of Meru's Virtualized Wireless LAN solution, the AP332 wireless access point delivers high performance for a superior end-user experience. As with other Meru access points, it integrates seamlessly with the System Director wireless operating system and the Meru E(z)RF® network management suite to bring intelligent management and resilient wireless services to your network.

Features	Benefits
<ul style="list-style-type: none"> <li>• 802.11n wireless access point with dual radios and three spatial streams</li> <li>• Radio frequency virtualization</li> <li>• Support for multiple operating modes: centralized, distributed, mesh, and VPN tunnel modes</li> <li>• Integration with Meru controllers and System Director operating system</li> <li>• Internal or external antennas</li> </ul>	<ul style="list-style-type: none"> <li>• Supports mission-critical, resource-intensive applications in high-density environments</li> <li>• Simplifies deployment and delivers seamless mobility</li> <li>• Offers flexible deployment options for diverse uses</li> <li>• Delivers superior wireless resilience and reliability</li> <li>• Provides a choice of two models to suit your needs</li> </ul>

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## TECHNICAL SPECIFICATIONS

### QoS

WMM support  
Dynamic WMM rate adaptation  
Configurable QoS rules per user and application

### OPERATING MODES

Centralized deployment mode  
Distributed deployment mode  
Remote VPN tunnel mode  
Mesh mode

### SECURITY

WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM, EAP-AKA, and EAP-MD5)  
802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory  
RADIUS-assisted per-user and per-ESSID access control via MAC filtering

### MANAGEMENT

Centrally managed by any Meru controller running System Director  
Automatically discovers controllers and downloads configuration settings for plug-and-play deployment  
Upgrades and management using System Director/E(z)RF® Network Manager  
Support for SNMP

### WIRELESS SPECIFICATIONS

#### Radio Technologies

Dual-radio, dual-band 802.11n indoor access point; 3x3 MIMO with three spatial streams  
Supports both 20 MHz and 40 MHz channel widths  
Supported radio technologies:  
802.11b: Direct-sequence spread-spectrum (DSSS)  
802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)  
802.11n: 3x3 MIMO with three spatial streams

#### Modulation

Supported modulation types  
802.11b: BPSK, QPSK, CCK  
802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

#### Frequency Bands

Supported frequency bands:  
2.400 - 2.485 GHz  
5.150 - 5.250 GHz  
5.250 - 5.350 GHz  
5.470 - 5.725 GHz  
5.725 - 5.825 GHz  
Country-specific restrictions apply; adjusted by controller upon approval  
Platform supports Dynamic Frequency Selection (DFS)

#### Operating Channels

2.4 GHz channels: 1 to 11 for US & Canada, 1 to 13 for Europe, 1 to 14 for Japan  
5 GHz Non-DFS channels: 36 to 48 and 149 to 165  
5 GHz DFS channels: 52 to 64 and 100 to 140  
Country-specific restrictions apply; adjusted by controller upon approval  
Platform supports Dynamic Frequency Selection (DFS) for flexible 5 GHz channel adoption

#### Data Rate

Data rates supported (Mbps):  
802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54  
802.11b: 1, 2, 5.5, 11  
802.11n: 6.5 to 450 (MCS0 to MCS23)

### Transmit Power and Receive Sensitivity (External Antenna Model)

	Maximum Transmit Power [EIRP]	Receive Sensitivity at Lowest Data Rate
IEEE 802.11b	23 dBm	-93 dBm
IEEE 802.11g	22 dBm	-83 dBm
IEEE 802.11a	20 dBm	-87 dBm
2.4GHz IEEE 802.11n (HT20)	23 dBm	-83 dBm
2.4GHz IEEE 802.11n (HT40)	20 dBm	-80 dBm
5GHz IEEE 802.11n (HT20)	20 dBm	-87 dBm
5GHz IEEE 802.11n (HT40)	19 dBm	-85 dBm

### Transmit Power and Receive Sensitivity (External Antenna Model)

	Maximum Transmit Power [EIRP]	Receive Sensitivity at Lowest Data Rate
IEEE 802.11b	22 dBm	-92 dBm
IEEE 802.11g	21 dBm	-82 dBm
IEEE 802.11a	19 dBm	-85 dBm
2.4GHz IEEE 802.11n (HT20)	22 dBm	-82 dBm
2.4GHz IEEE 802.11n (HT40)	19 dBm	-79 dBm
5GHz IEEE 802.11n (HT20)	19 dBm	-85 dBm
5GHz IEEE 802.11n (HT40)	18 dBm	-83 dBm

### Configurable Transmission Power

Transmission power configurable in 1.0 dBm increments  
Unused radios can be disabled via software for lower power consumption

### PHYSICAL SPECIFICATIONS

#### Antenna

AP332i: Six integrated dual-band omnidirectional PIFA antennas with typical antenna gain of 3 dBi for 2.4 GHz and 4 dBi for 5 GHz  
AP332e: Six extended reverse polarity SMA connectors. Shipment comes with six omnidirectional rubber duck antennas with typical gain of 2 dBi for 2.4 GHz and 3 dBi for 5 GHz band. Other external antenna options are available.

#### Power

802.3af PoE and 802.3at PoE Plus  
12V external power adapter (sold separately)

#### Interfaces

Networks: Two 10/100/1000BASE-T Ethernet (RJ45), auto-sensing link speed and MDI/MDX, with one 802.3af PoE or 802.3at PoE Plus  
One USB 2.0 port (Type-A connector)

#### Indicators

One tri-color LED over facade for AP status  
Additional LEDs for Ethernet activity over two RJ45 ports

#### Mounting

Wall or ceiling mount  
Three mounting kits included with access point:  
15/16" T-bar & wall-mount combo adapter (650-00232)  
9/16" T-bar adapter (650-00233)  
Flat-surface wall-mount bracket (used with 650-00232)

#### Dimensions

AP332i or AP332e (with mounting bracket):  
7.09" x 7.09" x 2.67" (18.00 cm x 18.00 cm x 6.80 cm)  
AP332e without facade:  
6.30" x 6.30" x 2.06" (16.00 cm x 16.00 cm x 5.22 cm)

#### Weight

AP332i (with mounting bracket): 2.33 lb (1.06 kg)  
AP332e (with mounting bracket): 1.93 lb (0.88 kg)  
AP332e without facade: 1.5 lb (0.68 kg)

#### Environmental

Operating temperature: 32°F to 122°F (0°C to 50°C)  
Operating humidity: 5–95% (non-condensing)  
Storage temperature: -40°F to 185°F (-40°C to 70°C) ambient  
Storage humidity: 5–95% (non-condensing)

### Regulatory Approval

FCC  
EU R&TTE Directive 1995/5/EC  
RS-210  
ICES-003  
VCCI  
ARIB-STD33 & STD66  
For more country-specific regulatory approval, please contact your Meru representative.

### Certifications

Wi-Fi certified 802.11a/b/g/n



RoHS Compliant  
WEEE Compliant  
REACH Compliant  
UL2043 Compliant (AP332e only)

### Warranty

Limited lifetime warranty

### Part Numbers

#### AP332i

Dual-radio, dual-band 802.11a/b/g/n access point with six internal omnidirectional antennas

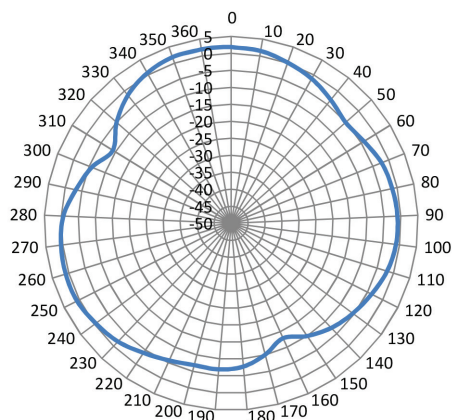
#### AP332e

Dual-radio, dual-band 802.11a/b/g/n access point with six external omnidirectional antennas

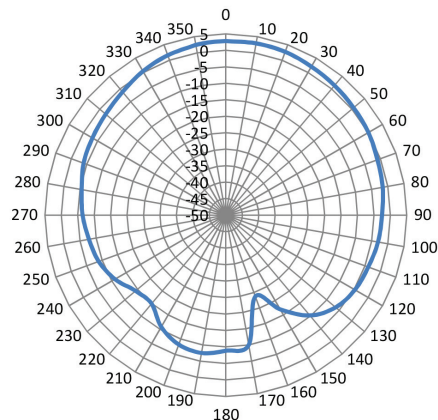
For radio approvals, please contact your local Meru representative for U.S., Canada, Japan, and Europe regulatory codes.

# AP332

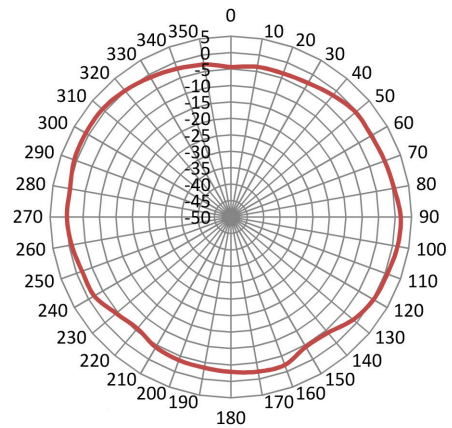
## Antenna Radiation Patterns (Internal Antenna Model)



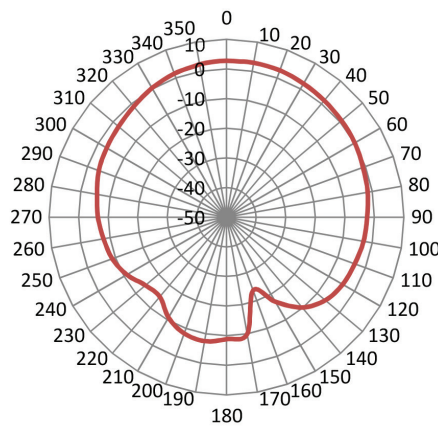
2.4 GHz H-plane



2.4 GHz E-plane



5 GHz H-plane



5 GHz E-plane

**Meru** delivers an all-wireless network that fully supports the enterprise, delivering a consistent, interactive experience for all users. No matter what applications they are running. No matter how many other users are on the network.



For more information, visit [www.merunetworks.com](http://www.merunetworks.com) or email your questions to: [info@merunetworks.com](mailto:info@merunetworks.com)

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